

Computer Desktop Encyclopedia

Ninth Edition

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future proof Not obsolete in the future. As much as the computer field drives the future, there are very few future-proof products within it. One exception might be optical fiber, which seems capable of handling more bandwidth than we can ever imagine. However, we also said 640K would be all the memory we would ever need in a desktop computer.

fuzzy computer A specially-designed computer that employs fuzzy logic. Using such architectural components as analog circuits and parallel processing, fuzzy computers are designed for AI applications.

fuzzy logic A mathematical technique for dealing with imprecise data and problems that have many solutions rather than one. Although it is implemented in digital computers which ultimately make only yes-no decisions, fuzzy logic works with ranges of values, solving problems in a way that more resembles human logic.

Fuzzy logic is used for solving problems with expert systems and realtime systems that must react to an imperfect environment of highly variable, volatile or unpredictable conditions. It "smoothes the edges" so to speak, circumventing abrupt changes in operation that could result from relying on traditional either-or and all-or-nothing logic.

Fuzzy logic was conceived by Lotfi Zadeh, former chairman of the electrical engineering and computer science department at the University of California at Berkeley. In 1964, while contemplating how computers could be programmed for handwriting recognition, Zadeh expanded on traditional set theory by making membership in a set a matter of degree rather than a yes/no situation.

fuzzy logician An individual who is involved in developing fuzzy logic algorithms.

fuzzy search An inexact search for data that finds answers that come close to the desired data. It can get results when the exact spelling is not known or help users obtain information that is loosely related to a topic.

FW See *firewall*.

FWD (Fast Wide Differential) Refers to a Fast Wide SCSI implementation that uses differential signaling. See *SCSI*.

FWIW Digispeak for "for what it's worth."

FWSE (Fast Wide Single Ended) Refers to a Fast Wide SCSI implementation that uses the common single ended signaling. See *SCSI*.

FX See *foreign exchange service*.

FX 32 An emulator from Digital that allows 32-bit Windows programs to run on Alpha machines. It emulates x86 machine language instructions. It also performs a translation of a program the first time it is run so that it will run faster the second and subsequent times.

FYI Digispeak for "for your information."



Fuzzy Computer

Since the whole computer industry seems fuzzy much of the time, how about a really fuzzy computer!

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General MIDI A standard set of 128 sounds for MIDI sound cards and devices (synthesizers, sound modules, etc.). By assigning instruments to specific MIDI patch locations, General MIDI provides a standard way of communicating MIDI sound.

MIDI's small storage requirement makes it very desirable as a musical sound source for multimedia applications compared to digitizing actual music. For example, a three-minute MIDI file may take only 20 to 30K, whereas a WAV file (digital audio) could consume up to several megabytes depending on sound quality.

General Protection Fault See *GPF*.

General Public License See *GNU General Public License*.

general-purpose computer Refers to computers that follow instructions, thus virtually all computers from micro to mainframe are general purpose. Even computers in toys, games and single-function devices follow instructions in their built-in program. In contrast, computational devices can be designed from scratch for special purposes (see *ASIC*).

general-purpose controller A peripheral control unit that can service more than one type of peripheral device; for example, a printer and a communications line.

general-purpose language A programming language used to solve a wide variety of problems. All common programming languages (C, C++, Java, COBOL, etc.) are examples. Contrast with *special-purpose language*.

general-purpose machine See *general-purpose computer*.

generation X Refers to individuals roughly between the age of 25 and 34. "Generation Y" pertains to ages 18 to 24, and "baby boomers" are people 35 to 54. By the time older gen-Xers became teenagers, the personal computer revolution had begun. Younger gen-Xers and all generation Ys were brought up in the thick of it. In contrast, older baby boomers were certainly raised without desktop computers, but many did not even have TVs as a child.

generation Y See *generation X*.

generator (1) Software that creates software. See *application generator* and *macro generator*.
(2) A device that creates electrical power or synchronization signals.

Generic CADD A full-featured CADD package for DOS from Autodesk, Inc., Sausalito, CA (www.autodesk.com), that offers levels for beginner, intermediate and advanced users. It was originally developed by Generic Software of Bothell, WA.

generic top-level domain See *Internet domain name*.

genetic programming A type of programming that imitates genetic algorithms, which uses mutation and replication to produce algorithms that represent the "survival of the fittest." While genetic algorithms yield numbers, genetic programs yield ever-improving computer programs. Written in languages such as LISP and Scheme, genetic programming requires the determination of a fitness function, which is a desired output (result). The degree of error in the fitness function determines the quality of the program. For more information, visit www.geneticprogramming.com.

Genie An online information service from Yovelle Renaissance Corporation (www.genie.com), that provides Internet access, chat lines, roundtable discussions and games. It was originally the General Electric Network for Information Exchange. See *online services*. See also *jini*.

genlock (generator lock) Circuitry that synchronizes video signals for mixing. In personal computers, a genlock display adapter converts screen output into an NTSC video signal, which it synchronizes with an external video source.

GEO (Geostationary Earth Orbit) A communications satellite in orbit 22,282 miles above the equator. At this orbit, it travels at the same speed as the earth's rotation, thus appearing stationary. GEOs are excellent for TV broadcasting.